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ABSTRACT

A preliminary study was conducted to identify the precipitating conditions and strategies used for vocabulary acquisition and to relate these findings to one theory of elementary and post-elementary cognitive development. Twenty-six college seniors were asked three questions regarding precipitating conditions and strategies used for vocabulary acquisition during the elementary and post-elementary years. Four categories of precipitating conditions were identified: (1) appealing sound and/or "adultness," (2) immediate usefulness, (3) strong emotion, and (4) peer usage. "Appealing sound" was most frequent during elementary years and "peer usage" was most frequent during post-elementary years. A two-part acquisition strategy was found that included search for meaning and rehearsal. It is concluded that the influence of affect on vocabulary acquisition during elementary and post-elementary years may be far more pervasive and varied than had previously been suspected. Strategies used for vocabulary acquisition are strikingly similar and noticeable for the degree of conscious, deliberate involvement on the part of the learner. Piagetian and neo-Piagetian theories of cognitive development are important in interpreting vocabulary acquisition. (SW)

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VOCABULARY ACQUISITION DURING ELEMENTARY AND POST-ELEMENTARY YEARS: AN INTROSPECTIVE REPORT

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Vocabulary Acquisition During Elementary and Post-Elementary Years: An Introspective Report

Variables which contribute to language learning have been the subject of a great deal of research interest and study. Generally, research has concentrated on preschool language acquisition, and until the past decade, has supported the conclusion that language development is very nearly mature by about age six. Growing numbers of researchers, however, are acknowledging the need for research concerning language acquisition beyond the preschool years (C. Chomsky, 1969; Ruddell, 1976; Wardhaugh, 1976). Of specific interest are the developmental processes through which elementary and post-elementary children gain grammatical and lexical control of their language. Embedded in this larger concern are questions dealing with vocabulary acquisition which Manzo and Sherk (1974) have identified as being singularly important, but relatively unresearched; specifically, (1) what condition or conditions precipitate the acquisition of new words? and (2) what strategy or strategies are used to incorporate new words into the speaking vocabulary? A third, and just as important concern, is whether or not the conditions and/or strategies change developmentally, and if so, what relationship this change has to current theories of cognitive development.

Elementary and post-elementary age cognitive development, according to Piagetian theory, includes the periods of concrete operations (ages 7-11) and formal operations (ages 11-16). Progress through these stages, which follow the sensorimotor period (birth-2) and period of preoperational thought (ages 2-7), is marked by qualitative changes in thinking which have to do with a person's "way of knowing" (Ammon, 1977; p. 160). Basic to Piaget's description of cognitive functioning are the processes of

assimilation and accomodation which enable the organism to incorporate new information into existing mental structures, schemes, and to adjust personal schemes in light of this new information. All of this is the result of the organism's adaptive drive toward equilibration. As the organism proceeds from one stage to another, three factors interact to regulate rate of progression: (1) maturation, (2) physical experience, and (3) social interaction (Piaget, 1967). Flavell (1977) emphasizes the organism's active search for selection and interpretation of environmental information, and neo-Piagetian theorists (Ammon, 1977) have attempted to specify more clearly those factors which account for individual differences in the selection of environmental stimuli. Pascual-Leone, for example, has suggested that, out of all the schemes which could be active in an organism at a given moment, those which are active are determined by the activation weights of "scheme boosters." These scheme boosters may originate with forces inherent in the environment (F Operators); they may depend on affective or emotional factors (A Operators); or they may regulate the amount of mental energy available to perform mental transformations (M Operators). By attaching weight to various environmental stimuli, the scheme boosters determine not only which stimuli will be attended to, but the amount of mental transformation which will occur as well (Ammon, 1977).

The current study represents a preliminary effort to identify the precipitating conditions and strategies used for vocabulary acquisition, and to relate these findings to one theory of elementary and post-elementary cognitive development. The decision to use an introspective technique grew from the author's observation of specific instances where vocabulary learning occurred during her own language development and an interest in

whether or not similar instances could be remembered by other adults. If adults could remember such learning episodes, their responses might then be analyzed to determine types of precipitating conditions and strategies, and whether or not these conditions and strategies followed any kind of developmental pattern.

Method

The study was conducted with a population of 26 college seniors enrolled in a reading methods class. The students were presented with three questions to determine if they could recall specific instances when new words were learned and if so, what strategies were used. The questions were asked prior to discussion of language/vocabulary acquisition, and with no preliminary information given. The questions were:

1. Can you remember an incident when, as a child (between first and seventh grade), you incorporated a new word into your speaking vocabulary? If so, identify the word and describe the incident as fully as possible.
2. Can you remember an incident when, as a teen-ager or young adult, you incorporated a new word into your speaking vocabulary? If so, identify the word and describe the incident as fully as possible.
3. What personal strategy or strategies do you use for incorporating new words into your speaking vocabulary?

Results

Question One: Can you remember an incident when, as a child, you incorporated a new word into your speaking vocabulary?

Twenty-one out of the twenty-six students could recall learning new words as a child. Of the twenty-one, one could remember such experiences,

but no specifics; one could remember the incident, but not the word, and one could remember the word, but not the incident. The remaining eighteen could remember both the word and the incident. Surprising here was the completeness of their recall; instead of quick-sketch responses, full scenarios were given.

> My brother and I were reading a story together. I was in about 3rd grade, and I stumbled across a word I did not know.
>
> .... as a 3rd grader I had my appendix taken out. It was on my birthday and I was going to have a slumber party.
>
> My older sister was in high school at the time, and I remember being interested in the word since I related it to a zoo. She was involved in a science fair at the school and our family went to see all she had done on her project.

Analysis of these responses yielded four categories of precipitating conditions.

I. The word was said by an adult or older sibling and was appealing because of its sound or its "adultness." (9 responses) Most respondents indicated an affinity for the sound of the new word; "... it had a nice sound to it" -- and stated that they used it over and over just to hear themselves saying it. Others wanted to emulate older siblings, teachers and parents; "I wanted to be big, like they were." "I felt so 'big' using it." Since childhood experiences were restricted to seventh-grade and below, the list of words seems to bear out their adultness and/or unusual

sound: falcon, scruples, facetious, trek, zoology, audacity, compromise, magazine. (One respondent could not remember the word, but could remember learning from older siblings).

II. The word was learned as the result of an incident involving strong emotion. (4 responses) These responses indicated that the emotion was generally embarrassment or shame. In one, a third-grade child was embarrassed because her younger brother could read a word that she did not know; in another, an expletive was used by the child at a family gathering; and in a third, the child's mouth was washed with soap and water. The final respondent remembered learning words having to do with sex because they were "hush-hush."

III. The word was learned because it had immediate usefulness. (4 responses) The words "appendectomy," "arabesque," "rainbow," and "roll" were mentioned in this category. Interestingly, the word "roll" was learned within the context of its multiple meanings. The student, a first grader, learned to associate "roll" with "somersault" where previously s/he had thought it meant "lying on one's side and turning over and over."

IV. The word was learned as a result of peer usage. (1 response) The one response in this category was remembered from seventh grade. The student learned the word "groovy" because "everyone was talking about groovy teachers." The comment was added that this word was dropped once it lost its popularity.

Question Two: Can you remember an incident when, as a teen-ager or young adult, you incorporated a new word into your speaking vocabulary?

Twenty-one out of the twenty-six subjects were able to remember such an incident. Analysis of their responses yields approximately the same

categories of precipitating conditions as those found for younger children, but category totals vary noticeably.

I. The word was appealing because of its sound. (1 response) This response indicated that the word "ludicrous" was learned because "... the sounds of it are satisfying to me."

II. The word was learned as the result of an incident involving strong emotion. (1 response) Once again, the emotion was embarrassment. A high school student who was feeling "swelled-head proud" of his/her verbal prowess was unable to define the word "raze" to a younger student.

III. The word was learned as a result of classroom experience. (7 responses) Five of the seven responses in this category closely paralleled the "immediate usefulness" category found for elementary years. Respondents indicated that words were learned after hearing them in class (juxtaposed, hypostatize, tenet) or after seeing them in assigned readings (plethora). The two remaining responses stated that new words were acquired from direct teaching of vocabulary: one was from the traditional lists assigned by English teachers and one from a vocabulary improvement book used in a reading class.

IV. The word was learned as a result of peer usage. (12 responses) Not surprisingly, this was the single largest response category for teen and young adult years. Within the category, three subdivisions emerged. First, and most prevalent, (5 responses) were slang words or expressions, all of which were remembered from teen years. Such terms as "yock-e-dock," "bippy," "far out" and calling someone a "mope" were listed.

The second subcategory of peer usage reveals the propensity of youngsters to make a slang expression out of so-called "legitimate" words.

The three responses indicated a playful quality in language usage: "sardonic" and "cryptic" were learned and used when friends "were joking around" and bandying words about. "Behooves" was learned through a process which is delightfully familiar to almost everyone.

> The word was "behooves." It entered my vocabulary when I was a sophomore in high school. Our assistant principal used the word in a message given to a whole-school assembly. I believe he said, "It behooves you not to display affection in public." I do remember that it kept the class body in stitches for weeks. None of us had ever heard the word before and he repeated it several times during his address. I can still remember hearing, as a senior, students admonishing each other, "Now it behooves you not to hold hands in public."

The final subcategory of peer usage involves words that were learned as a result of discussion with friends. All four responses indicated that these words were learned during college years (as opposed to high school), and three of the four indicated that a friend introduced the new word as a label for a known experience. No slang expressions or words were identified in this subcategory. The words listed for this situation were "procrastinate," "derogatory" and "pandemonium." In the fourth response, the word "licentious" was used in a group discussion. Because of the context of this conversation, the student assumed it "had something to do with sex," and then looked it up to get the exact meaning.

Response frequencies for all categories are displayed in Table 1, where the data show a marked shift in response from the elementary to the post-elementary years.

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Insert Table 1 about here

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Question Three: What personal strategy or strategies do you use for incorporating new words into your speaking vocabulary?

Analysis of these responses revealed that, generally, a two-part procedure for learning new words is followed: first, meaning is obtained, and then the word is rehearsed through repeated usage. Twenty responses showed this pattern; nine students said that they look the word up in a dictionary, nine said they ask close friends or family, and two stated that they use their knowledge of word parts to ascertain meaning. Six responses did not directly state how meaning was obtained. Rehearsal was mentioned nineteen times as an important part of the word acquisition. Most students noted that a conscious effort is made to use the new word and that they seek opportunity to do so. Mentioned also was the fact that early rehearsal is done in conversation with family and friends. The importance and significance of rehearsal is well summarized by one response.

> The first thing after I learn [a new word] is use it in conversation with a good friend or my husband. When I can handle it well enough that my eyes don't light up when I say it, I then consider it part of my vocabulary and not a new word.

Discussion

Conditions Which Precipitate Vocabulary Acquisition

One of the most striking findings in this study is the influence of affect on vocabulary acquisition. This influence appears to take various

forms and to be either long-term or episodic in nature. Immediately noticeable is the pattern of change which occurs within the identified condition categories between elementary and post-elementary years. This pattern is parallel to, and in fact reflects, the social development considered typical for passage from childhood to adolescence.

During the elementary years, parents, teachers and older siblings form the group of significant others from whom words are learned. Wanting to "sound big;" i.e., to emulate, important adults evidently is a potent factor in word learning and it accounted for one-half of the elementary responses. "Peer group usage," on the other hand, was the single most frequent response at the post-elementary level (12 out of 21 responses), indicating a shift of influence from family and teachers to friends. The influence of social affect, according to Berlyne (1967), is closely associated with the organism's search for equilibration. He states that,

> . . . words, more than images, are responsible for the progressive socialization of thought. Words and concepts corresponding to them are taken over from the social group. They are, therefore, bound to edge the child's thoughts into line with those of other persons. He can influence and be influenced by, benefit from or suffer from, the beliefs and values of other members of his group and so arrive at an equilibrium and harmony with his social as well as his physical environment. (pp. 261-262)

These results support Berlyne's position, and further suggest that the composition of the influencing "social group" changes significantly (and predictably) between childhood and adolescence.

The episodic influence of affect on vocabulary acquisition can be explained by the operation of activation weights on environmental stimuli. Informally, students have often described the phenomenon of learning a new word only to discover that, once sensitized to it, they encounter the word everywhere -- even in material recently read or heard. The word, obviously, was always there, but was simply not attended to until it could serve a functional purpose. This phenomenon undoubtedly is the result of a complex of factors, but can be explained partially by the operation of activation weights upon existing stimuli: "Some schemes are activated more strongly, or weighted more highly, than others. Those schemes with the highest activation weights will be the ones that actually apply to (i.e., assimilate) the situation" (Ammon, 1977, p. 177). As was mentioned earlier, this weighting can be the result of A operators (affective schemes), F Operators (forces inherent in the field), or M Operators (mental energy available), but whatever the source of the weighting, it serves as the "final arbiter" in the selection of stimuli to attend to (Ammon, 1977).

Teachers were mentioned as a stimulus for vocabulary acquisition at both the elementary and post-elementary level; their influence, however, was almost always that of a model for vocabulary usage rather than as a resource for vocabulary study. Students heard and incorporated into their vocabularies many of the words used by teachers, but rarely remembered learning words as the results of direct teaching. Evidently, the A Operators (e.g., liking the teacher; wanting to sound adult) attached greater activation weights to those words than the F Operators (e.g., unknown words) could attach to word lists or other widely used teaching materials. The A Boosted words were therefore "selected" to be learned.

Selective attention resulting from the activation weights of A Operators appears to influence acquisition when words have particularly

distinctive or pleasing sounds. Students reported that, especially as children, they often learned a word for no other reason than its sound -- they liked rolling it around in their mouths and hearing themselves say it. This attraction to the sound of a word was often closely linked to the further positive feelings of sounding big, adult, grown up. Somewhat associated with this is the indication that adolescents enjoy playing with words which are unusual or exotic-sounding to their ears. "Yock-e-dock" certainly qualifies as such, and the instant incorporation of "behooves" by an entire school body lends further support.

Strategies for Vocabulary Acquisition

The most noticeable finding with regard to strategies for vocabulary acquisition is that, at least for some words, acquisition is a conscious, deliberate, active learning process which follows a strikingly singular pattern. Students reported that they first demand meaning and then actively seek opportunity to apply the newly obtained knowledge -- a sequence very closely parallel to the Piagetian learning sequence outlined by Ruddell (1978, p. 2).

1. encounter with new ideas or information
2. conflict with our own internal mental schemata
3. disequilibrium -- a sort of mental unbalancing
4. search for insight and adjustment of our personal schemata to accommodate new ideas
5. adjustment of old schemata to accommodate new ideas, and
6. restoration of mental equilibrium and viewpoint

Apparently it is at stage six that the "eyes don't light up" anymore when the word is used, and the word becomes a part of the individual's vocabulary.

Interesting here is the degree of metalinguistic awareness displayed in the responses. These young adults knew a great deal about how they learn words and were able to articulate variations on their basic approach which were used when the need arose.

Summary and Recommendations

Twenty-six college seniors were asked three questions regarding precipitating conditions and strategies used for vocabulary acquisition during elementary and post-elementary years. Results yielded four categories or precipitating conditions - (1) appealing sound and/or "adultness," (2) immediate usefulness, (3) strong emotion, and (4) peer usage - with response frequencies for each category changing with age. "Appealing sound" was most frequent during elementary years; "peer usage" most frequent during post-elementary years. A two-part acquisition strategy was found which included search for meaning and rehearsal.

The conclusions which can be drawn from this study are tentative at best: they are colored by the effects of time and distance which are inherent in any kind of introspective research, and they are based upon a set of data which is small in number and difficult to quantify. Nevertheless, the patterns which emerged from these data are strong enough to suggest directions for their further research.

1. The influence of affect on vocabulary acquisition during elementary and post-elementary years may be far more pervasive and varied than had previously been suspected. Additional introspective research could give direction to longitudinal studies designed to examine both episodic and long-term affective variables which serve to precipitate vocabulary acquisition.

2. Strategies used for vocabulary acquisition are strikingly similar and noticeable for the degree of conscious, deliberate involvement on the part of the learner. Research should be pursued to examine (a) the processes through which vocabulary acquisition strategies are internalized; (b) the developmental stages of metalinguistic awareness of strategies for vocabulary acquisition and (c) the effects of such metalinguistic awareness on vocabulary acquisition.

This study draws heavily on Piagetian and neo-Piagetian theories of cognitive development to assist in explaining vocabulary acquisition. The findings and related research recommendations suggest the directions which must be pursued if we are to understand fully the process of vocabulary development that occurs during elementary and post-elementary years.

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Table 1

Response Frequencies for Precipitating Conditions

	Child Gr. 1-7	Teen-age/ Young Adult
I. Sound/"Adultness"	9	1
II. Strong Emotion	4	1
III. Immediate Usefulness Classroom Experience	4	7
IV. Peer Usage	1	12